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1 Routine/Function Prologues

1.0.1 noah_singleout.F90 (Source File: noah_singleout.F90)

Write output file for a single noah variable

REVISION HISTORY:

14 Jun 2002 Sujay Kumar; Initial Specification

INTERFACE:

```
subroutine noah_singleout (ld,tile,gindex, var_array, index)
```

USES:

```
use lis_module      ! LDAS non-model-specific 1-D variables
use tile_module     ! LDAS non-model-specific tile variables
use time_manager, only : get_nstep
use noah_varder, only : noahdrv

implicit none
```

ARGUMENTS:

```
type (lisdec) :: ld      !data structure for lis domain specific variables
type (tiledec) :: tile(ld%d%glbnch) !tile array for the modeled domain
integer        :: gindex(ld%d%lnc, ld%d%lnr) !2-d array for mapping from 2d to 1d
real           :: var_array(ld%d%glbnch) !array of variable that is being output
integer        :: index   !Index of the output variable in the ALMA list.
```

CONTENTS:

```
!-----
! Test to see if output writing interval has been reached
!-----

IF(MOD(LD%T%GMT, noahdrv%WRITEINTN).EQ.0)THEN
    noahdrv%NUMOUTNH=noahdrv%NUMOUTNH+1
!-----
! Generate directory structure and file names for NOAH output
!-----

length = len(trim(vname1(index)))
WRITE(UNIT=temp1, FMT='(A10)') VNAME1(index)
READ(UNIT=temp1,FMT='(10A1)') (FVARNAME(I), I=1,length)
WRITE(UNIT=temp1,FMT='(I4,I2,I2)')LD%T%YR,LD%T%MO,LD%T%DA
READ(UNIT=temp1,FMT='(8A1)') FTIME
DO I=1,8
    IF(FTIME(I).EQ.(' '))FTIME(I)='0'
ENDDO
WRITE(UNIT=temp1,FMT='(I4)')LD%T%YR
READ(UNIT=temp1,FMT='(8A1)')FTIMEC
DO I=1,4
```

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      IF(FTIMEC(I).EQ.( ' ))FTIMEC(I)='0'
ENDDO

      WRITE(UNIT=temp1,FMT='(A7,I3,A1)' ) '/LDAS.E',LD%0%EXPCODE,'.'
      READ(UNIT=temp1,FMT='(80A1)' ) (FNAME(I),I=1,11)
      DO I=1,11
         IF(FNAME(I).EQ.( ' ))FNAME(I)='0'
ENDDO

      WRITE(UNIT=temp1,FMT='(A40)' ) LD%0%ODIR
      READ(UNIT=temp1,FMT='(40A1)' ) (FBASE(I),I=1,40)
      C=0
      DO I=1,40
         IF(FBASE(I).EQ.( ' ) .AND.C.EQ.0)C=I-1
ENDDO

      WRITE(UNIT=temp1,FMT='(A4,I3,A6,I4,A1,I4,I2,I2)' ) '/EXP', &
LD%0%EXPCODE,'/NOAH', &
LD%T%YR,'/ ',LD%T%YR,LD%T%MO,LD%T%DA
      READ(UNIT=temp1,FMT='(80A1)' ) (FYRMODIR(I),I=1,26)
      DO I=1,26
         IF(FYRMODIR(I).EQ.( ' ))FYRMODIR(I)='0'
ENDDO

      WRITE(UNIT=temp1,FMT='(A9)' )'mkdir -p '
      READ(UNIT=temp1,FMT='(80A1)' )(FMKDIR(I),I=1,9)

      WRITE(UNIT=temp1,FMT='(80A1)' )(FMKDIR(I),I=1,9),(FBASE(I),I=1,C), &
(FYRMODIR(I),I=1,26)
      READ(UNIT=temp1,FMT='(A80)' )MKFYRMO
!-----
! Make the directories for the NOAH output data files
!-----
      CALL SYSTEM(MKFYRMO)
!-----
! Generate file name for BINARY output
!-----
      IF(LD%0%WOUT.EQ.1) THEN
         WRITE(UNIT=FBINNAME, FMT='(I4,I2,I2,I2)' ) LD%T%YR,LD%T%MO, &
LD%T%DA,LD%T%HR
         READ(UNIT=FBINNAME,FMT='(10A1)' ) FTIMEB
         DO I=1,10
            IF(FTIMEB(I).EQ.( ' ))FTIMEB(I)='0'
ENDDO
         WRITE(UNIT=FBINNAME,FMT='(A9)' ) '.NOAHgbin'
         READ(UNIT=FBINNAME,FMT='(80A1)' )(FSUBGB(I),I=1,9)
         WRITE(UNIT=FBINNAME,FMT='(80A1)' )(FBASE(I),I=1,C), &
(FYRMODIR(I),I=1,26), &

```

```

        (FNAME(I),I=1,11),(FTIMEB(I),I=1,10), &
        (FVARNAME(I), I=1,length),(FSUBGB(I),I=1,9)
      READ(UNIT=FBINNAME,FMT='(A80)')FILENGB
!-----
! Open statistical output file
!-----
      IF(noahdrv%NOAHopen.EQ.0)THEN
        FILE='NOAHstats.dat'
        CALL OPENFILE(NAME,LD%0%ODIR,LD%0%EXPCODE,FILE)
        IF(LD%0%STARTCODE.EQ.1)THEN
          OPEN(65,FILE=NAME,FORM='FORMATTED',STATUS='UNKNOWN', &
                POSITION='APPEND')
        ELSE
          OPEN(65,FILE=NAME,FORM='FORMATTED',STATUS='REPLACE')
        ENDIF
        noahdrv%NOAHopen=1
      ENDIF

      WRITE(65,996)'      Statistical Summary of NOAH Output for: ', &
                    LD%T%MO,'/',LD%T%DA,'/',LD%T%YR,LD%T%HR,:',LD%T%MN,:',LD%T%SS
996    FORMAT(A47,I2,A1,I2,A1,I4,1X,I2,A1,I2,A1,I2)
      WRITE(65,*)
      WRITE(65,997)
997    FORMAT(T27,'Mean',T41,'StDev',T56,'Min',T70,'Max')
      ENDIF
!-----
! Write output in HDF and binary (if WBIN=1) format
!-----
      IF(LD%0%WOUT.EQ.1) then
        OPEN(58,file=FILENGB,FORM='UNFORMATTED')
      endif
      if(ld%0%wout.eq.1) then
        call t2gr(var_array,gtmp,ld%d%glbngrid, &
                  ld%d%glbnch,tile);
        write(58) gtmp
        call stats(var_array,ld%d%udef,ld%d%glbnch, vmean, &
                  vstdev, vmin, vmax);
        write(65,999) vname(index),vmean, vstdev, vmin, vmax
      endif

998 FORMAT(1X,A18,4E14.3)
999 FORMAT(1X,A18,4F14.3)
      endif

```